AMENDMENTS TO THE |CLAIMS|

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) An image pick-up apparatus for picking up a plurality of images being chronologically arranged along time-series to provide a~~n~~ ~~digital~~ image, comprising:

a means for obtaining information ~~of~~ about changes in gray level value between ~~those of~~ said plurality of images ~~thus picked up~~; and

a means for de~~termining~~ ~~ciding~~ a timing for extracting ~~at which~~ at least one of said plurality of images ~~is to be selectively extracted among those picked up images~~, based ~~upon~~ ~~the~~ results from ~~obtained by said changed image~~ said information ~~obtaining means for using same in an image processing, later on.~~.

2. (Currently Amended) The~~An~~ image pick-up apparatus according to Claim 1, wherein said ~~changed image information obtaining~~ means for obtaining information ~~is configured so as to~~ compares~~s~~ said gray level value of ~~each one and same~~ pixels ~~of~~ in an image ~~each one~~ of said plurality of images with ~~-~~similarly positioned pixels in another image of said plurality of images~~each other~~, and ~~thereby~~ obtains~~ing~~ a number of pixels whose ~~in one of said image,~~ said gray-level value ~~of~~ has ~~which are~~ increased ~~from those of one and same pixels of other image~~

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and a number of pixels ~~in one of said image,~~ whose said gray-level value ~~of which are~~ has

decreased ~~from those of one and same pixels of other image~~.

3. (Currently Amended) ~~An~~The image pick-up apparatus according to Claim 2, wherein

said ~~timing deciding~~ means for determining a timing determines~~cides~~ a timing for ~~selectively~~

extracting one image from said plurality of images ~~among those picked up images,~~ when said

number of pixels with increase ~~in one of said image, said~~ in said gray-level value ~~of which are~~

~~increased from those of one and same pixels of other image is~~ is less than the number of pixels ~~in~~

~~one of said image,~~ with decrease in said gray level value ~~of which are decreased from those of~~

~~one and same pixels of other image~~.

4. (Currently Amended) The~~An~~ image pick-up apparatus according to Claim 2, wherein

said ~~timing deciding~~ means for determining a timing determines~~cides~~ a timing for ~~selectively~~

extracting one image from said plurality of images ~~among those picked up images,~~ when a

predetermined threshold value of pixel numbers is greater than an absolute value of a difference

between said number of pixels ~~in one of said image,~~ with increase in said gray-level value ~~of~~

~~which are increased from those of one and same pixels of other image and~~ and the number of

pixels ~~in one of said image,~~ with decrease in said gray-level value ~~of which are decreased from~~

~~those of one and same pixels of other images less than a predetermined threshold value of pixel~~

~~numbers~~.

5. (Currently Amended) The~~An~~ image pick-up apparatus according to Claim 3, wherein,

said ~~changed~~ image information obtaining means for each image in said plurality of

images obtains a number of pixels ~~each having~~ whose said gray-level value exceed~~sing over~~s a

predetermined gray-level threshold value ~~of said gray-level value in each one of said images thus~~

~~pickedup~~; and

said timing ~~deciding~~determining -means determine~~scides~~s said~~a~~ timing for ~~selectively~~

extracting said one image ~~among those picked up images~~, when said number of pixels of the one

image with said gray-level value above the gray-level threshold value ~~each having said gray-~~

~~level value~~exceed~~sing over~~s a predetermined pixel number threshold ~~value of said gray-level~~

~~value in one image outnumbering a predetermined threshold value of pixel numbers, and further~~

~~when said number of pixels in one of said image, said gray-level value of which are increased~~

~~from those of one and same pixels of other image is less than the number of pixels in one of said~~

~~image, said gray-level value of which are decreased from those of one and same pixels of other~~

~~image~~.

6. (Currenlty Amended) The~~An~~ image pick-up apparatus according to Claim 2, wherein

said ~~changed~~ image information obtaining means for each image in said plurality of

imag~~ae~~s obtains a number of pixels ~~each having~~with said gray-level value exceeding ~~over~~a

predetermined <u>gray level</u> threshold value ~~of said gray level value in each one of said images thus~~ ~~pickedup~~; and

said timing de<u>termining</u>~~ciding~~ means de<u>termines</u> ~~cides~~<u>said</u>a timing for ~~selectively~~ extracting one image <u>from said plurality of images</u> ~~among those picked up images~~, when said number of pixels ~~each having~~<u>with</u> said gray-level value exceeding ~~over a~~<u>said</u> predetermined <u>gray level</u> threshold value ~~of said gray level value in one image~~ outnumber~~sing~~ a predetermined <u>pixel numbers</u> threshold ~~value of pixel numbers~~, and further when an absolute value of a difference between said number of pixels ~~in one of said~~<u>with increase</u> ~~image,~~<u>in</u> said gray-level value ~~of which are increased from those of one~~ and ~~same pixels of other image and~~ the number of pixels ~~in one of said image,~~<u>with decrease in</u> said gray-level value ~~of which are decreased~~ ~~from those of one and same pixels of other images~~<u>is</u> less than a <u>second</u> predetermined <u>pixel number</u> threshold~~value of pixel numbers~~.

7. (Currently Amended) <u>The</u>~~An~~ image pick-up apparatus according to Claim 2, wherein said plurality of images ~~are~~<u>comprises at least</u> two successive images which had been <u>successively</u> picked up by said image pick-up apparatus~~successively~~.

8. (Currently Amended) <u>The</u>~~An~~ image pick-up apparatus according to Claim 7, wherein a first image ~~among~~<u>from</u> said <u>at least two</u> ~~plurality of~~ successive image<u>s</u> ~~consists~~<u>is</u> a first frame

and a second image ~~among~~ from said at least two ~~plurality of successive~~ image_s_ ~~consists~~ is a

second frame.

9. (Currently Amended) The~~An~~ image pick-up apparatus according to Claim 8, wherein

said apparatus further comprises~~ing~~:

an image picking up means for picking up images;~~,~~

a memory means for storing said images; ~~picked up by said apparatus, which~~ comprising

~~a~~ first memory means and ~~a~~ second memory means for said plurality of images, and

a data processing means comprising: a pixel comparing means, a pixel number counting

means for counting a number of said pixels whose ~~a~~ gray level value ~~of which~~ has ~~been~~ changed,

and said~~a~~ timing determining~~eiding~~ means ~~for deciding a timing at which at least one of said~~

~~images can be extracted as a suitable image for image processing purpose~~, and

an output means.

10. (Currently Amended) The~~An~~ image pick-up apparatus according to Claim 9, wherein

~~a~~ said first frame ~~among said successive images~~ is stored into said first memory means and said ~~a~~

second frame ~~among thereof and which has been~~ picked up immediately after said first frame

~~image by said image pick-up apparatus~~ is stored into said second memory means.

11. (Currently Amended) The~~An~~ image pick-up apparatus according to Claim 9, wherein ~~in~~ said pixel comparing means~~,~~ compares a gray level value of each ~~one of~~ pixel in said first frame ~~pixels of said first frame of said first image is compared~~ with a gray level value of each ~~one and same pixels~~ pixel in ~~of~~ said second frame pixel corresponding to said each pixel in said first frame~~of said second image, each other~~.

12. (Currently Amended) The~~An~~ image pick-up apparatus according to Claim 1, wherein said image processing compris~~es~~ing a fingerprint image data processing.

13. (Currently Amended) The~~An~~ image pick-up method for picking up a plurality of images being chronologically arranged along time-series to provide a~~n~~ ~~digital~~ image, comprising ~~the steps of~~:

obtaining information ~~of~~ about changes in gray level value between ~~those of~~ said plurality of images ~~thus picked up~~; and

deciding a timing at which at least one of said plurality of images is to be ~~selectively~~ extracted ~~among those picked up images~~, based upon ~~the~~ results obtained ~~by said changed image~~ from said information ~~obtaining means for using same in an image processing, later on~~.

14. (Currently Amended) The~~An~~ image pick-up method according to Claim 13, wherein ~~said step of~~ obtaining said ~~changed image~~ information further comprises:~~in gray level value in each of said plurality of images~~

comparing~~es~~ said gray level value of ~~each one and same~~ pixels ~~of each~~ in one image ~~one of~~ from said plurality of images with ~~each other,~~ similarly positioned pixels of another from said plurality of images, and ~~thereby~~

obtaining a number of pixels in said one image whose ~~in one of said image,~~ said gray-level value ~~of which are~~ has increased ~~from those of one~~ and ~~same pixels of other image and~~ a number of pixels in said one image ~~in one of said image,~~ whose said gray-level value ~~of which are~~ has decreased ~~from those of one and same pixels of other image.~~

15. (Currently Amended) The~~An~~ image pick-up method according to Claim 14, wherein ~~said step of~~ determing~~ciding~~ a timing for ~~selectively~~ extracting at least one image from said plurality of images is based on ~~among those picked up images, decides a timing for selectively extracting one image among those picked up images,~~ when said number of pixels ~~in one of said image,~~ with increase in said gray-level value ~~of which are increased from those of one and same pixels of other image~~ is less than the number of pixels ~~in one of said image,~~ with decrease in said gray-level value ~~of which are decreased from those of one and same pixels of other image~~.

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16. (Currently Amended) The~~An~~ image pick-up method according to Claim 14, wherein ~~said step of~~ determining~~deciding~~ a timing for ~~selectively~~ extracting ~~one~~ an image ~~among those picked up images, decides a timing when~~ is based on a predetermined threshold value of pixel numbers being greater than an absolute value of a difference between said number of pixels ~~in one of said image, said~~ with increase in said gray-level value ~~of which are increased from those of one and same pixels of other image~~ and the number of pixels ~~in one of said image, said gray-level value of which are~~ with decreased in said gray-level value ~~from those of one and same pixels of other images less than a predetermined threshold value of pixel numbers~~.

17. (Currently Amended) The~~An~~ image pick-up method according to Claim 13, wherein~~:~~;

said step of obtaining said ~~changed image~~ information obtains a number of pixels of an inmage of said plurality of images ~~each~~ having said gray-level value exceeding ~~over~~ a predetermined gray level threshold value ~~of said gray level value in each one of said~~

~~images thus picked up~~; and

said step of deciding a timing for ~~selectively~~ extracting one image ~~among those picked up images~~ decides a timing where~~n~~ said number of pixels ~~each having~~ with said gray-level value exceeding ~~over~~ said a predetermined gray level threshold value ~~of said gray level value in one image~~ outnumber~~sing~~ a predetermined threshold value of pixel numbers, and further where~~n~~ said number of pixels ~~in one of said image,~~ with increase in said gray-level value ~~of which are~~

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~~increased from those of one and same pixels of other image~~ is less than the number of pixels ~~in one of said image,~~ with decrease in said gray-level value ~~of which are decreased from those of one and same pixels of other image~~.

18. (Currently Amended) The~~An~~ image pick-up method according to Claim 13, wherein:~~;~~

said step of obtaining ~~said changed image~~ information obtains a number of pixels in an image from said plurality of images, ~~each~~ with ~~having~~ said gray-level value exceeding ~~over~~ a predetermined gray level threshold value ~~of said gray level value in each one of said images thus picked up~~; and

said step of deter~~mining~~ciding a timing ~~for selectively extracting one image among those picked up images decides~~ determines said~~a~~ timing when said number of pixels ~~each having~~ with said gray-level value exceeding ~~over~~ a predetermined gray level threshold value ~~of said gray level value in one image~~ outnumber~~sing~~ a predetermined threshold value of pixel numbers, and further when an absolute value of a difference between said number of pixels ~~in one of said image,~~ with increase in said gray-level value ~~of which are increased from those of one and same pixels of other image~~ and the number of pixels ~~in one of said image,~~ with decrease in said gray-level value ~~of which are decreased from those of one and same pixels of other images~~ is less than a second predetermined pixel number threshold ~~value of pixel numbers~~.

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19. (Currently Amended) The~~An~~ image pick-up method according to Claim 13, wherein said plurality of images ~~are~~ comprises at least two successive images which had been successively picked up by said image pick-up method~~apparatus successively~~.

20. (Original) The~~An~~ image pick-up method according to Claim 13, wherein a first image ~~among~~from -said ~~plurality of~~ at least two successive images comprises~~nsists~~ a first frame and a second image ~~among~~ from said at least two~~plurality of~~ successive images ~~consists~~ comprises a second frame.

21. (Currently Amended) The~~An~~ image pick-up method according to Claim 13, wherein said ~~apparatus~~ method further comprises~~:~~ing

~~an image picking up means~~picking up said plurality of images with an image picking up means;~~,~~

~~a memory means for~~ storing said images by storing said first frame image data from said at least two successive images into a first memory means and storing said second frame image data from said at least two successive images into a second memory means; ~~picked up by said apparatus, which comprising a first memory means and a second memory means,~~

~~a data processing means comprising a pixel~~ comparing and counting number of pixels with a change in gray level value by using data processing means;~~,~~ ~~a pixel number counting means for counting a number of said pixels a gray level value of which has been changed~~ and

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a timing deciding means for determing eiding a timing at which at least one of said images can be to extracted as at least one a suitable image for image processing purpose, and

outputting said at least one suitable image. an output means and said method is further comprising the steps of;

storing a first frame image data among said successive images into said first memory means and

storing a second frame image data among said successive images into said second memory means.

22. (Currently Amended) TheAn image pick-up method according to Claim 13, wherein said method further comprises: the steps of; comparing saida gray level value of each one of said pixels of said first frame of said first image is compared with a gray level value of each one similarly positioned and same pixels of said second frame of said second image, each other.

23. (Currently Amended) TheAn image pick-up method according to Claim 13, wherein said image processing comprisesing a fingerprint image data processing.